

BEDROCK AQUIFER SYSTEMS OF DAVIESS COUNTY, INDIANA

Davieess County Bedrock Aquifer Systems

In Davieess County, rock types exposed at the bedrock surface range from relatively unproductive shales to moderately productive sandstones. The bedrock aquifer systems in the county are overlain by unconsolidated deposits of varying thickness. Three bedrock aquifer systems are identified based on bedrock lithology. They are, from west to east and youngest to oldest: Carbondale Group of Pennsylvanian age; Racoon Creek Group of Pennsylvanian age; and Buffalo Wallow, Stephensport, and West Baden Groups of Mississippian age.

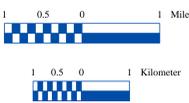
Aquifers contained within the Pennsylvanian age bedrock have generally low-yielding capability. Both the Carbondale and the Racoon Creek Groups in Davieess County are considered minor ground-water sources, with most wells producing from thicker sandstones or coal units in the Carbondale Group or from the Mansfield Formation in the Racoon Creek Group. Overall, the Racoon Creek Group has somewhat better potential than the Carbondale Group, having reported well yields between 4 and 30 gallons per minute (gpm) for most domestic wells and well yields up to 50 gpm for high-capacity facilities in isolated areas. Most domestic wells in the Carbondale Group have reported testing rates between 2 and 15 gpm. Dry holes have been reported in both groups.

The Mississippian bedrock aquifer system does not outcrop in Davieess County. However, some deeper wells along the eastern edge of the county penetrate through the Racoon Creek Group and into this aquifer system. These wells are typically open to both aquifer systems, a condition that makes separate descriptions of yields impractical.

The bedrock aquifer systems in Davieess County are not very susceptible to contamination from the land surface because of the typical presence of low-permeability materials above the water-bearing zones. However, in the limited areas of surface and underground coal mining, some localized contamination may have occurred. Natural water quality is expected to get progressively worse (more salty) in wells deeper than 300 or 400 feet as the strata dip beneath younger rocks to the southwest.

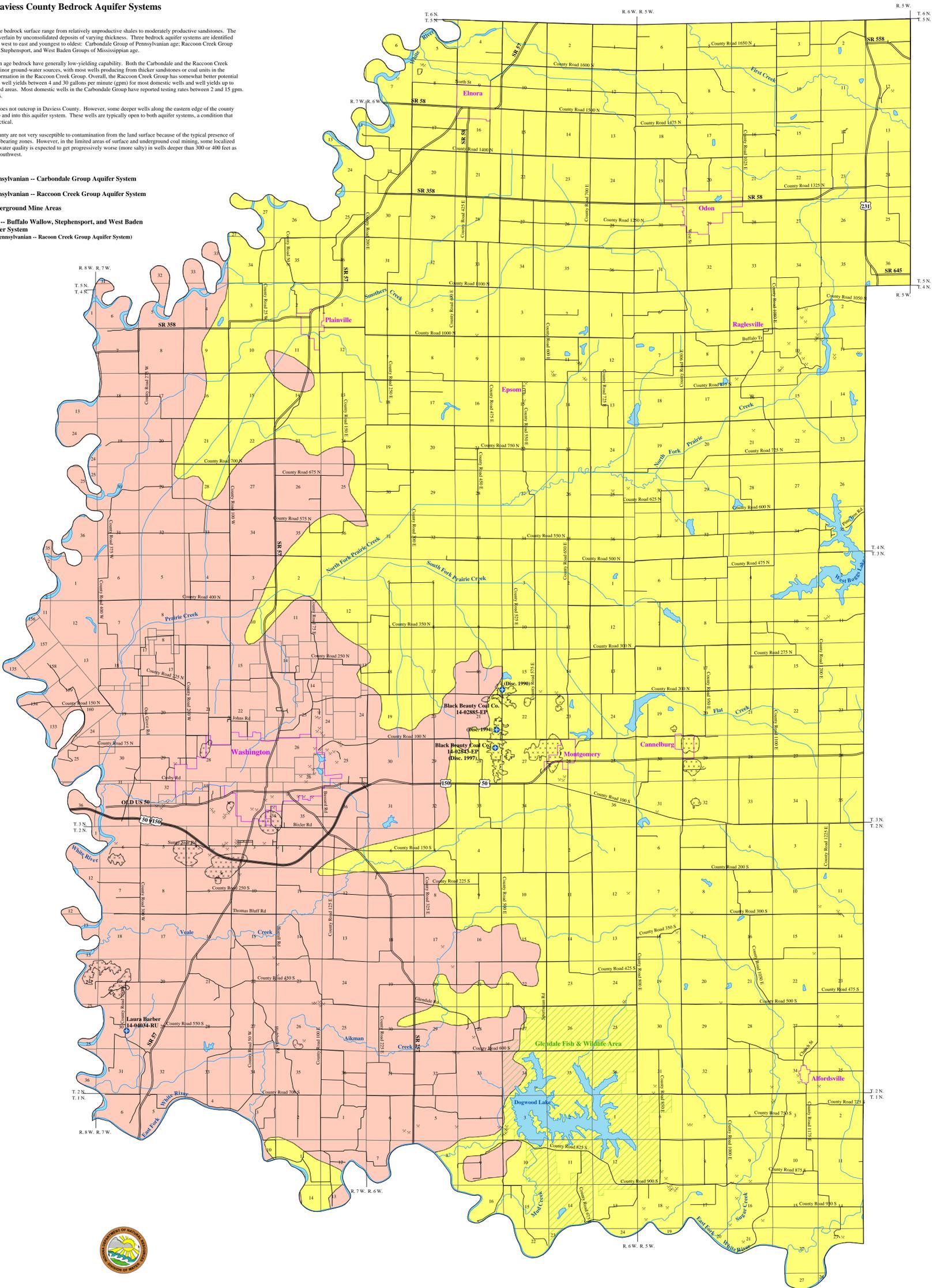
- Pennsylvanian -- Carbondale Group Aquifer System
- Pennsylvanian -- Racoon Creek Group Aquifer System
- Underground Mine Areas
- Mississippian -- Buffalo Wallow, Stephensport, and West Baden Groups Aquifer System
(beneath Pennsylvanian -- Racoon Creek Group Aquifer System)

Location Map



EXPLANATION

- County Road
- State Road & US Highway
- Stream
- Lake & River
- Municipal Boundary
- Glendale Fish & Wildlife Area
- Small Underground Mine (Abandoned)
- Registered Significant Ground-water Withdrawal Well



Map Use and Disclaimer Statement

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This map was created from several existing shapefiles. Underground Coal Mines in Southwestern Indiana (polygon shapefile, 20001902), Township and Range Lines of Indiana (line shapefile, 20020621), Land Survey Lines of Indiana (polygon shapefile, 20050621) were all from the Indiana Geological Survey and based on a 1:24,000 scale, except the Bedrock Geology of Southwestern Indiana (polygon shapefile, 20001124), which was at a 1:500,000 scale. Draft road shapefiles, System1 and System2 (line shapefiles, 2003), were from the Indiana Department of Transportation and based on a 1:24,000 scale. Managed Areas 96 (polygon shapefile, various dates) was from IDNR. City Areas in Southwestern Indiana (polygon shapefile, 1999) was from ESRI and based on a 1:100,000 scale. Streams27 (line shapefile, 20000420) was from the Center for Advanced Applications in GIS at Purdue University.

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by
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